

Gaggle Flying

Climbing in a thermal while flying as part of a gaggle is always demanding—and in order to be safe you must spend 95% of your attention outside, using the remaining 5% of your attention to fly the glider. It is YOUR responsibility to locate and track every single glider in your vicinity, and to adjust your flight path as needed so as to prevent collision.

When another pilot looks into your cockpit from across the circle, s/he expects to see your head on a swivel—and to see you looking frequently at him/her. Failure to do so will inevitably result in a reputation as a pilot who is unsafe to be around. Once gained, such a reputation is difficult to outgrow.

In addition to keeping a good lookout for traffic, a couple of other skills are necessary. To safely enter a thermal being flown by other gliders, you must learn to visualize the turning circle of the glider nearest your own altitude; you must plan your approach to that circle (using adjustments to your speed or path—the easiest way is to angle slightly away from the thermal until the timing “looks right”) so as to arrive diametrically opposite that other glider; finally, you must be able to continuously adjust your relative position so as to always keep the other glider directly opposite you as you pivot about a common center point.

These adjustments are mostly a matter of bank angle. Imagine that you are flying straight, wing level, past another glider thermaling at about your altitude. (For sake of argument, let's assume that the other glider is in a right turn and will pass on your right side.) Imagine how that would look from your cockpit: from a spot very near the nose of your aircraft, the other glider will track along the right side of your canopy before finally vanishing behind you.

Obviously, wings-level flight represents a case of a bank angle insufficient to “catch” the other glider and to maintain a stable position relative to it.

Now, imagine the same scenario, but this time imagine that the other glider is passing you in straight flight, going the opposite direction. (The other glider is once again on your right side.) Just as s/he passes abeam you, you roll up into a tight turn. What happens? Viewed from your cockpit, the other glider would track forward along the right side of your canopy before reaching your nose and sliding off to the left...

Obviously, this is an example of having too much bank for the situation.

Let's review these points:

When your bank is insufficient to hold the other glider in a fixed spot on your canopy, that other glider moves aft along your canopy.

When your bank is excessive, relative to the turn rate of the other glider, that other glider moves forward along your canopy.

The correct bank angle is that which "freezes" the other glider(s) into fixed position(s) on your canopy.

So, once having timed your arrival in the thermal so as to position yourself opposite the other glider, smoothly roll into your turn while watching the other glider. (This is an exception to the rule that you should watch the nose/horizon picture while rolling.) As your bank, and therefore turn rate, increases, the apparent movement of that other glider across your canopy will slow. As you reach the correct bank, the other glider will stop and freeze in position on your canopy.

Once you're in position relative to the other glider, both pilots are now obligated to keep each other in sight and to remain in view of the other. You will find that this somewhat reduces your freedom to center yourself in the thermal—which is why your average rate of climb is apt to suffer when gaggle flying. You will probably have to make smaller centering corrections, and even to forgo some corrections on occasion. This is a good reason not to do any more gaggle flying than necessary: once you're high enough, plan on leaving the thermal and exploring for other nearby thermals—knowing that the other glider will probably continue to mark the thermal for you should you need to return to it. (This is, indeed, the ONLY benefit to gaggle flying.)

You shouldn't pay much, if any, attention to the variometer. For one thing, it's audio volume should be turned all the way up; for another, you'll learn a lot more by watching for relative motion between your glider and the others near your altitude. It will be perfectly obvious to everyone where the good side and bad side of the circle are located! (With a little practice, it's fairly easy to correlate a given audio vario tone with its climb rate, and this is a skill you should cultivate anyway.)

Don't forget: when flying near other aircraft, it is necessary to keep a little extra airspeed so as retain more maneuverability should the need arise. Also, it is good practice to announce by radio (or to catch the eye of the other pilot) when departing the thermal. (With the radio, use frequency 123.3 MHz.)

So, reduced to bullet points:



Quick Guide to Gaggling

- **Time your thermal entry, using angle-off, so as to arrive directly opposite other gliders near your altitude**
- **Smoothly roll into a bank until the other traffic “freezes” on your canopy**
- **Keep everyone in sight, remain in sight of everyone else**
- **Make your centering adjustments in concert with the other pilots**
- **Use the other gliders as “remote-sensing variometers”—there will NEVER be a need to look at your vario while gaggling!**
- **Keep a little extra speed in hand at all times**
- **Make a radio announcement, or try to catch the other pilot’s eye, when leaving the thermal**
- **Plan to leave as soon as possible, if necessary using the remaining gliders to mark the thermal for you**